

**June 17, 2004**

**MEMORANDUM**

**UTAH DEPARTMENT OF TRANSPORTATION**

**TO:** Jim McMinimee, P.E., Chairman

**FROM:** Barry Axelrod  
Recorder, Standards Committee

**SUBJECT:** Standards Committee Meeting Minutes and Next Meeting

The next meeting has been scheduled for Thursday, June 24, 2004 at 8:00 a.m., in the main 1st floor conference room of the Rampton Complex. The agenda for the meeting follows.

<b>Item</b>		<b>Remarks</b>	<b>Sponsor</b>
1.	Minutes of April 29, 2004	For approval	Barry Axelrod
2.	Hard Copy of Standard Specifications, printing status and currency issues	For discussion	Barry Axelrod
3.	Deletion of Standard Specification 02968, Optional Use of Reclaimed Asphalt Pavement	For approval	Tim Biel
4.	Supplemental Specification 02961, Rotomilling	For approval	Tim Biel
5.	Standards Committee Policy and Procedures, 08A5-1	For approval	Barry Axelrod
6.	Supplemental Specification 02753, Full Depth Slab Replacement For Concrete Pavements and New Specifications, Supplemental Specifications 02754, Dowel Bar Retrofit; 02755, Partial Depth Repair For Concrete Pavements; and 02962, Grinding Pavement	For approval	Bill Lawrence
7.	Review of Assignment/Action Log	For review	Jim McMinimee
8.	Meeting Improvements (on-going agenda item)	For discussion	Jim McMinimee
9.	Other Business		

JCM/ba  
Attachments

cc:

Ahmad Jaber Director, Region One	Jason Davis Engineering Services	Vacant Standards
Randy Park Director, Region Two	Dave Nazare Structures	Barry Axelrod Standards
Tracy Conti Director, Region Three	Darrell Giannonatti Construction	Patti Charles Standards
Dal Hawks Director, Region Four	Tim Biel Materials	Stan Burns Research
	Richard Clarke Maintenance	Carlos Machado FHWA
	Robert Hull Traffic and Safety	Mont Wilson AGC
		Tyler Yorgason ACEC

April 29, 2004

A regular meeting of the Standards Committee convened at 8:00 am, Thursday, April 29, 2004, in the 1st floor conference room of the Rampton Complex.

Members Present:

Jim McMinimee	Project Development	Chairman
Jason Davis	Engineering Services	Member
Farrell Wright	Standards and Specifications	Secretary
Randy Park	Region 2	Member
Dave Nazare	Structures	Member
Darrell Giannonatti	Construction	Member
John Leonard for Robert Hull	Safety	Member
Richard Clarke	Maintenance	Member
Tim Biel	Materials	Member
Mont Wilson	AGC	Advisory Member
Tyler Yorgason	ACEC	Advisory Member

Members Absent:

Carlos Machado	FHWA	Advisory Member
Robert Hull	Safety	Member

Staff:

Barry Axelrod	Standards and Specifications
Patti Charles	Standards and Specifications
Sam Sherman	Traffic Operations Center
John Butterfield	Region 2
Larry Montoya	Traffic and Safety
Tam Southwick	Traffic and Safety

Visitors:

Karl Verhaeren	Region 4 Construction
Blake Hansen	Traffic Operations Center

## Standards Committee Meeting

Minutes of the April 29, 2004 meeting:

1. Jim introduced Tyler Yorgason representing the ACEC as a new advisory member.

Jim then recognized Farrell Wright. Farrell then announced that May 28<sup>th</sup> would be his last day at UDOT, with his retirement the first of June. He then went on to comment about past and present associations, and the gains made since Jim took over as the chairman. Farrell said it was a pleasure to work with everyone. He thanked everyone. Darrell and Jim then thanked Farrell for all of his work. Jim then moved on to the regular part of the agenda.

Minutes of February 26, 2004 meeting were approved as written.

**Motion:** Jason Davis made a motion to accept the minutes as written. Seconded by Tim Biel. Passed unanimously.

2. Standard Drawing Change Report (For Construction) (Agenda Item 2) - Presented by Farrell Wright.

Farrell said this report is similar to the one last time for the Maintenance area. Farrell said Patti and he met with a team from the Construction Division, including the Complex and the four regions. They met five times, reviewing all the drawings. Farrell said the editorial changes have been made as part of the new set of drawings for 2004. The changes were delegated to Pete Negus who will combine them with the recommendations from Maintenance. Pete will bring the changes to the Standards Committee for approval. Farrell went on to highlight some of the key comments from their meetings.

Referring to GW 4, Farrell said that Brian Mecham was concerned about the triangular portion of the flared driveway cracking. Brian recommended a rectangle shape to correct the problem. Farrell asked for comments on any of the drawings before he continued with the review.

Farrell said that he received questions asking why the double, “dancing” diamonds couldn’t be used on Federal projects. He indicated that he explained the problem to the team and that a process was underway to get that changed. The team members indicated they would like to see that come back as a standard on Federal projects.

Farrell said that while some comments were editorial, a lot were technical that would better the standards from a construction point of view. Farrell said that starting on Monday he would get with Pete Negus to start going over the comments.

Discussion points were:

- Jim asked if the same kind of look with the drawings was going on with the AGC. Farrell said that is being worked on but that he has not heard back from Rich Thorn about establishing a team from the AGC. He indicated he would like to get a meeting set up before he retired. Farrell said this is a great opportunity to improve the standards. Jason said he discussed this with Tyler Robirds about doing the same thing with the ACEC.
- Discussion followed on the method to get all the comments incorporated into the drawings. Jason said the AGC commented about having the Maintenance and Construction comments incorporated before they reviewed the drawings so that they didn't go over the same areas. Darrell said to add Karl onto the list from Construction for the review with the AGC. Jason said it would be helpful to get a concurrence from the AGC on the previous comments and changes.
- There was no further discussion.

3. Standard Specifications (ATMS) and Standard Drawings AT 2, Ramp Meter and AT 14, Weigh In Motion (Agenda Item 3) - Presented by Sam Sherman.

Sam said that after using these specifications for a couple of years they realized that parts of several specifications could be incorporated into 13551. He added that two new specifications were proposed at the last meeting. From comments last time, Sam said the forms were removed from the specifications. He said he also talked to Jeff Saddler about placement in the Construction Manual of Instruction. Jeff indicated that the forms would fit in chapter 12. The forms will also be placed on the Construction web site.

Sam said one of the suggestions from last time was to remove proprietary call-outs. Sam briefly pointed out some of the other areas he was asked to address. Sam said that they would like to stick with their specification in regard to conduit depths. He said their specification is more stringent than the overall utilities specification. Sam said he would like to see someone review the Utility Handbook.

Discussion points were:

- Jason commented about the reference in the specification and how that is done now. Barry said he would check the references and format the link using the new Web site for references with the standards. Barry explained how the references now work. This way the specification doesn't have to change when a reference changes.

- Jim asked Sam why did he want the Utility Handbook reviewed. Is it to make it consistent or is there an engineering reason. Sam said it needed to be looked at for a number of reasons. He didn't think contractors could meet the requirements, particularly in urbanized areas. Sam said it is hard to get conduit down five feet given all the other utility conflicts.
- Sam commented about the addition of the as-built requirements to the end of Section 01721. Jason asked about the need for nine decimal place accuracy as indicated in the supplemental specification. Sam said more accuracy is needed for latitude and longitude measurements.
- Sam said that the biggest struggle is getting as-builts from contractors. At that point they have moved on and there is very little retention in the project to require the as-builts. Jason said the Standards Committee has struggled with that a lot and has worked with Mont and the AGC to resolve the problem. Sam didn't think placing the requirement in this section would give any additional leverage in obtaining them. Mont commented that the Corps of Engineers withhold \$10,000 until as-builts are received.
- A general discussion on as-builts continued.
- Dave pointed out a problem in the title of the AASHTO M 31 reference. Barry said they would check it out for all the specifications.
- Referring to Section 13551, article 3.2, Dave said the statement in paragraph J needed to be clarified so hand tools could be used.
- Referring to Section 13553, article 3.1, Dave commented about the metallic sleeve reference in paragraph M. He said they don't use metal when putting conduit in parapets, adding that when buried in concrete the metal would corrode. He thought the statement could be worded differently. Dave thought this statement was referring to the attachment of conduit to a structure that was already in place. Jason said paragraph N takes care of the attachment to the structure. Sam said he would have to look into it.
- Karl said he was considering recommending another paragraph be added at a later time to the Survey specification but was concerned about having two "M" specs. Barry explained how they handle subsequent changes to a supplemental specification. Subsequent changes are appended to the current supplemental. Karl said he should have the change ready for the next meeting. Darrell said they are looking at other changes as well and that he would start working on it. This would not impact the change currently being discussed.
- Discussion continued with the two AT drawings. Jason commented about the use of an 8 inch lens versus 12 inch lens. Sam said the 8 inch lens is already being used in ramp meter areas.

- Referring to note 2 on AT 14, Jason said he thought the saw cut was discussed last time and that it was changed. Sam said he would check.
- Patti, commenting for Farrell, said the Advance Flashing Beacon Assembly is now 36 x 36 instead of 30 x 30 and that the revision comments need to be added to AT 2. Barry said they would take care of the wording for the revision section.
- Comments on the SL 5 reference on AT 2 were that the tapered pole is no longer used so that part of the reference could come out.
- There was no further discussion on this item.

**Motion:** Jason Davis made a motion to approved Standard Specifications 01721, 13551, 13552, 13553, 13554, 13555, 13556, 13557, 13561, 13591, 13592, 13593, 13594, and 13595 and Standard Drawings AT 2 and AT 14 as discussed and modified. Seconded by Dave Nazare. Passed unanimously.

Barry reminded Sam that they need cleaned up copies as soon as possible and to work with them if there are any questions.

4. Standard Drawings GW 5A, GW 5B, and GW 5C Pedestrian Access and Supplemental Specification 02771M, Curbs, Gutters, Driveways, Pedestrian Access Ramps, and Plowable End Sections (Agenda Item 4) - Presented by Larry Montoya.

Larry said as you can see they have made significant modifications to the drawings. He also suggested postponing approval of the drawings until the next meeting. Larry said that Roland Stanger from FHWA asked that the approval be delayed. Larry said he would welcome any comments on the drawings.

Larry said they are getting a lot of questions on pedestrian ramps and that they are trying to address them on a case-by-case basis. As such Larry said they have tried to clarify and improve the existing drawing with these three drawings. He said they also tried to separate information so it is clearer. Larry said the ramps are now identified as parallel or perpendicular. He added that just because the drawings are shown as they are, as a straight section doesn't mean that is the only way they could be applied. The sections could be applied to a radius or other situations. Drawing GW 5B shows the ramps on a radius. Larry said the key is to have a landing that is flat. This gives a person in a wheelchair a place to stop without rolling out into the street.

Larry said the other issue that needs to be addressed better is directionality. He said the law doesn't require directionality, yet. Larry said that Roland's thinking is that we should address this.

Discussion points were:

- Jim said he didn't remember that issue. Referring to GW 5B, the Type F ramp, Larry said instead of just providing a rectangular area an edge with the domes would also be provided. This would provide some directionality for a person with a cane or who is site impaired. The intent is to lead them across the street to the opposite ramp. Jim commented that the current ramp could lead the person diagonally into traffic.
- Jim asked if there is a required surface area for the truncated domes. Larry said note 2 on GW 5A covers this with a two-foot minimum depth. The note and arrows on the details cover two things and may be confusing. Jim said he thought a detail should be added to show just the dimension of the panel itself.
- Larry said another issue is drainage. He referred to GW 5A. He said for a blended transition type ramp it works best if you have a flat area at the bottom, adding that this is another area they want to look at. He explained different concepts.
- Larry said these drawings are difficult because we are addressing new construction and retrofits. Because pedestrian ramps are being addressed on so many projects and are used a lot Larry said they have been wrestling with how to show the ramp as a standard but also to provide the guy in the field the limits of the ramp. He said this part needs to be worked on.
- Larry concluded by saying he proposed getting out to the regions over the next two months to talk to all the resident engineers and inspectors. Larry said they would have everything nailed down in a couple of weeks and will get out to the regions to talk to people.
- In response to comments Larry said there are two types of panels, a pre-cast high strength panel and a fiberglass panel. He said both have worked very well. He added that pressing the imprint into the concrete is no longer allowed by the specifications. There are only two options now.
- Discussion continued on the strength of the concrete. Jason said the supplemental does not address the strength. Larry said he could add more detail, adding that he was trying to stay with a general specification. Tim said that Bill Lawrence could help with this area.
- Larry said another issue was the color contrast. The wording was taken from another publication. He said he had received a few questions on the color as to what colors are acceptable. Contrasting colors are hard to define. Larry proposed listing charcoal, dark red, or yellow. He said those are the colors that are working in the cities.



- Someone asked if there will be separate bid items or some way for the designer to determine what will be used or will a special provision be used. How do you specify? Larry said there is no cost difference between the colors, adding that fiberglass may be a little cheaper. A comment indicated a note on the plans might be sufficient. Larry agreed saying that the city is usually involved in design meetings. The designer should be able to get with the city to determine exactly what color they want and then make the decision on the type of material.
- Darrell commented about a snow application and if a note was needed. Jason thought a technical bulletin would work.
- Discussion continued on the retrofit side. Larry said it would be up to the Resident Engineer to make the decision. In response to a question Jim said there are a variety of ways that this is being handled, including in Orange Books. Jim said he thought Bob's group was looking at Orange Books that deal just with pedestrian ramps. Randy said they have Orange Book projects that they can't afford to do. He said this would be brought up in another meeting. In some cases it is around 60 percent of a project or the grade just doesn't permit them.
- Darrell said in that case we should be looking at separate projects prior to that time and also look ahead. Dave commented that a review should be done to determine if doing it is even possible. A design exception would be considered. Dave added that we need to make sure everyone is headed down the same path.
- Someone asked John if it were possible to go that route. John said he thought so, adding that in some situations it is physically impossible to put in a pedestrian ramp. John said we do what we can given the constraints that are encountered. That is allowable, but like everything you need to document it.
- Being no further discussion Larry asked if the supplement specification could be approved now. The drawings will be brought back to the next meeting. Comments indicated that more work was still needed on the concrete in the supplemental. Larry said he would get with Bill Lawrence. A special provision will be used in the mean time.

**Action Item:** Larry Montoya to coordinate with Bill Lawrence to resolve concrete related issues in Supplemental Specification 02771M.

**Action Item:** Larry Montoya to complete coordinate with FHWA on Standard Drawings GW 5A, 5B, and 5C.

5. Standard Drawing Publication (Agenda Item 5) - Presented by Farrell Wright.

Farrell said we have changed to a supplemental format to do changes to the 2004 Standard Specifications so that nothing changes in the bid books like with the 2002 version. He said the Standard Drawings are a little bit different in part because only one, two, or none might be approved at each meeting. Farrell said they came up with different options to handle the changes. The first option would be to stay as we are now. A change would be published after each Standards Committee meeting when drawings are approved. Projects would still be impacted on what drawings apply to each project. Farrell said another option would be to do a detail sheet for each changed drawing. The detail sheets would be made available for the regions for inclusion in the plan sets. With this option the standard drawings would not be updated on the Web site. A third option would be to provide the details to the designers for them to create their own detail sheets. The fourth and final option would be to publish changes to the Standard Drawings twice yearly. The handout provided in the agenda package listed details on how each option would be handled.

Farrell said that some of the options were discussed with the regions during the last Standards Section's region visit. He said Region 2 wanted stay as is, with a change published after each meeting. Farrell said we need to figure out where we want to go with this. How do we want to address Standard Drawings that are approved by the Standards Committee?

Discussion points were:

- Darrell asked if these were preconstruction people that the Standards Section talked to. Farrell said yes. Randy agreed to stay the same and to move on.
- Darrell commented that the AGC was happy with how the specifications are going to be handled but that they had a concern about the drawings. Farrell said we could put out a memo that says a changed drawing applies no matter what happens. No one liked that option. Farrell agreed.
- Mont asked what was wrong with the old philosophy that standard drawings in effect at bid time apply.
- Darrell asked if we did two or three changes a year, would that cause any grief if something was needed quickly. Jason said it would add to design time with the designers putting together the extra detail sheets. Jason added that it would be standardized, with some deciding to stay as is, not making the change. Jason gave an example based on the GW sheets discussed earlier. Randy said we are looking for problems if we go with detail sheets until the drawing change is published. Farrell agreed, adding that someone coming into the Web site could end up with an out dated standard. Farrell said we need to keep all files up to date.

- Farrell asked how do we impact construction. Mont said it is incumbent on the Contractor to keep an updated file of Standard Drawings. Jim asked Mont if we were suggesting that we stay the way we are doing it now. Mont said yes. Recapping Mont's comments, Jim said it would be the Contractor's responsibility to print out the current file before bidding. Barry said the current priority system would apply. Jason said we changed the procedure for Standard Specifications because of the magnitude of the number of pages and sections that were being changed. Jason said he didn't think we do that with the drawings.
- Jim asked Farrell if he thought a motion was needed. Farrell said he would like a vote on what scenario the Committee wanted.
- Karl commented that the plan sets still include the sheets that show all the Standard Drawings. He didn't think that was necessary. Farrell agreed, adding that we are trying to reduce the number of sheets in a plan set. All our Standards apply no matter what the project is. Every Standard Specification and Standard Drawing applies so why are we going through "x-ing" individual drawings like we have always done?
- Jim asked Barry if the Standard Drawings are on the Web with everyone having access. Barry updated the Committee on the current status of the 2004 Standard Drawings. He said all the drawings have been signed by Jim and Carlos and have been taken to the printer. He commented about digital signatures but there are problems in that area. Barry said currently on the Web site there are two PDF files of all the drawings, one regular and one certified. Darrell asked if the Electronic Plan Room has a link to the Standard Drawing area. Barry said there are links from various Construction Web pages. Barry also said that through the home page "Doing Business" menu there are links to the Standards. That then breaks down to the specifications, drawings, special provisions, checklists, and table of contents. Everything the Contractor, designer, and Consultant needs from a Standards standpoint is there. Additionally, the Construction site lists changes to the Standards that link to the Standards Web area. From there Barry said they can get the entire set in one PDF file, individual DGN files, and by series individual PDF files. Barry said he could work with the Construction Division to make sure they have all the correct links.
- Mont said the Contractors need to be told through the AGC where to look if you want a current copy the Standard Drawings. Jim commenting to Darrell said that is something we can include in the bid system download and what their responsibility is for obtaining the current Standards.
- Being no additional comments Jim asked if there was a motion. Comments indicated that if we are staying the course then a motion is not needed. The procedure used for the 2002 Standard Drawings will be used for the 2004 version.

**Action Item:** Barry to coordinate with the Construction Division on the verification or establishment of the proper Web links.

**Action Item:** Darrell to include in bid system instructions the Contractor responsibility for downloading current Standard Drawings.

6. Traffic Barriers (Agenda Item 6) - Presented by Tim Biel.

Tim said he was asked to look into repair cost information related to barriers. He said this was a quick look and is not based on any statistics. Referring to the summary provided in the agenda package Tim said repair costs on I-215 from small vehicle hits is eight times higher than on other interstates.

Discussion points were:

- Darrell asked based on these finding will there be any instructions to designers on when to use cast in place versus precast barriers.
- Jim asked if as a Committee is there something we would like to see done with this information. Jim reemphasized the point that this was not statistically based but was a quick look to determine cost effectiveness of different options. He said it seems there is potential for the Department to save money by employing a different strategy from the current procedure. Jim said he asked Tim to present something so the group could decide whether to pursue it further and come up with a policy for using cast in place barrier.
- Randy said cost is one factor. Shape is another as is height. From an alignment standpoint Randy said by pinning everything, alignment would become less of a big deal with precast. Randy said a lot more detail would have to go into a decision, with location being a big factor. Canyon versus non-canyon would also be a factor.
- Darrell commented on construction practices. Some practices impact durability. Jason said he would encourage that we look into this further.
- Randy said there are a lot of other details beyond accident statistics and repair costs that need to be looked at.
- Jim asked if there was enough energy here to continue with this. Jim said that since Tim had already spent a lot of time on this it made sense for him to continue, adding that Randy and Rich should be involved, as should Jason. Jim told Jason to put a group together to see what they could come up with. Commenting to John, Jim said this might be something that goes into the OSR for consideration on the type of barrier to use.
- There was no further discussion.

**Action Item:** Jason to put a task group together to gather information and make a recommendation for a barrier type.

7. Standard Specification 01554, Traffic Control (Agenda Item 7) - Presented by John Leonard.

John said they have an agreement with Mountainlands Applied Technology Center for flagger certification. John said they are the sole providers of that certification. He said that UDOT had been accepting the ATSSA certification but the current Standard is in conflict with that agreement.

Discussion points were:

- Farrell pointed out the Supplemental Specification in the package. He said article 3.2, paragraph A1b was being deleted.
- John said the contract is up for renegotiation in about 14 months. He said they are thinking about changing the contract to allow other certifications.
- John said that Utah Valley State College provides the training to the cities.
- Jim asked Darrell and Mont if they have heard of any problems with the certification. Neither had any input. There was no further discussion.

**Motion:** John Leonard made a motion to approve Supplemental Specification 01554 as presented. Seconded by Jason Davis. Passed unanimously.

8. Standard Drawing PV 4, Concrete Pavement Details For Urban and Interstate (Agenda Item 8) - Presented by John Butterfield.

Farrell said there was no submittal sheet for this item. He said the revision block on the drawing highlights the change. The transfer dowel bar layout detail was revised. John provided the history that motivated the change. He said the callout on the detail was changed from "Traffic Lane" to "Traffic Lane and Shoulder." He said the reason is related to the last two concrete paving projects in Region 2. The projects were designed with the intent of doing future traffic considerations to place the load transfer dowels in the shoulders. However the drawing didn't specify that. John said that fact was caught in one pre-bid meeting so the Contractor knew how to bid the project. It was not caught in the next project, requiring a significant change order. John said Construction asked him to bring this to the Standards Committee. He said it is a significant issue considering the current price of steel. John said he isn't suggesting everything be built the same, but that we decide what the standard is; understanding projects need to be design specifically. Are we adding something to the Standard going above and beyond or do we say this project doesn't justify that expense?

Discussion points were:

- Jason asked if there were any safety issues if the bars weren't used in the shoulders. John didn't think it was a big issue.
- John said this wasn't an issue a year ago, but it is now because of steel prices.
- Jim asked if there is a way to include the different options in the drawing. Jim said right now the drawing says we put dowel bars on all interstates.
- It is not cost effective to put dowel bars on all projects.
- John said a year ago we weren't talking about adding a lot of cost and it allowed us the opportunity to shift traffic for whatever reason and ride on one homogeneous continuous section of pavement. Referring to the southern end of Bangeter Highway, Randy said someone asked last week what it would take to restrip a portion to three lanes. Randy asked if there were any bars in the shoulders. John said there are none in the entire pavement.
- Jim asked if there was a way to address this in one of our pavement design manuals that would be more applicable instead of being part of the standard. John said perhaps and that he had thought about that option. Tim said standard design manuals are usually set on the design lane they are talking about. They'll tell you whether or not you want load transfer in a general sense but they aren't going to know whether the shoulder has the potential to be a driving lane five or ten years from now.
- A comment indicated it is more of a project specific question. Tim said you catch it in a project design. John asked what is the impact if we don't. Tim said it would be change order here and there.
- Jim said if it is truly a project specific thing then maybe Construction and Materials should get a team together to come up with a solution that doesn't involve standards.

**Action Item:** John Butterfield to put together a team from Construction and Materials to find a solution.

John asked Farrell if he wanted him to cover the other issue. Farrell said he received an email yesterday on Section 03055. Farrell handed out a copy of the email, the applicable portion of the current specification, and the recommended changes from John. Farrell said he lined out the applicable items in Table 3 and wrote in the changes from John. Farrell said John had worked with Structures to clean up the strength requirements.

Simplifying, John said that Structures and Materials came together to resolve issues that had required a differentiation between AA(AE) and AAA(AE) classes of concrete. John pointed out that the issue was already discussed and approved by the Standards Committee. However there was still some confusion. John said his change simplifies things tremendously. John said he didn't notice it until yesterday when a Contractor asked why do we have two different classes of concrete with the same strength requirements.

Discussion points were:

- Jim asked as a procedural question are you asking that this be adopted. Is this for discussion and then brought back next time or is it for approval? Tim said it might be an editorial change and not a conceptual change. Jason said that if it is editorial then we don't have to make it a change, it just happens. Barry said it would still have to be a Supplemental Specification based on the new rules. He said no vote is needed. The Standards Section would just create a supplemental.
- Jim asked if anyone thought it wasn't a supplemental. Barry asked if this change would impact any other specifications. It would not.

9. Review of Assignment/Action Log (Agenda Item 9)

Jim covered the action log.

Discussion points were:

- Item 1, Rumble Strips: Jim said Stan Burns and Bob Hull were working on a policy. Jim thought something should be ready for the next meeting. Jim asked Barry to remind him to talk to the two individuals about the policy.
- Item 2, Prompt Payment: Darrell said they have a committee looking at this. The target date is the June 2004 meeting.
- Item 3, Painted Cattle Guard: John said there is very little research material available. John suggested the August 2004 meeting as the target date.
- Item 4, Standard Drawings TC 17 and TC 18: John said they have not received any conclusive data and that this item could be removed from the log. They will resubmit at a later time. Jim said that means we are at the MUTCD level. Closed.
- Item 5, New Drawing of Four-Legged Intersection and Item 6, Standard Drawing ST 4: John said to put both on for the August 2004 meeting.

- Item 7, Team Report on Standard Drawings: Farrell said this is being reassigned to Pete Negus and hopefully by the June 2004 meeting they will be ready to start presenting changes to the drawings. This action item is actually complete as of the report at the beginning of the meeting. It is now a new item. Jim said Farrell led two different groups in the review of all Standard Drawings. There is an ongoing effort continuing with the AGC and ACEC. Randy commented about the Maintenance specifications. Farrell said it has been over a year since he talked to Lynn Bernhard about getting the Maintenance specifications in line with the standard in relation to format and numbering. Randy said this might be the time to clean up the Maintenance specs. Jim said it would also help the AGC so they didn't wonder why we have two different specifications. Farrell said Pete is aware of the assignment and is agreeable.
  - Item 8, Deer Ramps: No new information. Still no target date.
  - Item 9, Hard Copy of Standard Specifications: Farrell said Patti just finished the table of contents and the index for the new 2004 Standards. They just need to review the documents. Farrell said that he just received the final region count for the number of hard copies they need. Mont said AGC needs 300 copies. Farrell said he doesn't have the numbers for the Complex. Jim said in that the information on the Web is free, will the books also be free. Farrell said no. Each unit will pay for the copies they need. AGC had also agreed to pay for the books. Farrell said they need a final number as soon as they can get them. In response to a question Farrell said his numbers from the regions doesn't include Maintenance. Jason asked Rich and Randy if the Maintenance areas would want copies. Rich said he would think they would. Rich said there are about 80 Maintenance Sheds. Supervisors would also need a copy, making it around 110 copies. Jim asked Farrell who would be taking over the procurement effort after his retirement.
  - Item 10, ATMS forms: Item completed with the discussion and approval of the ATMS Supplemental Specifications earlier in the meeting.
10. Meeting Improvements (on-going agenda item) (Agenda Item 10). Jim asked if anyone had anything they would like to see us do or stop doing during the meeting.

### **Coordination of Agenda Items**

Mont commented about getting AGC input before an item is brought to the Committee. Barry said that should be part of the process on the submittal sheet. Someone said it appears to be an enforcement issue. The process is there, it just needs to be done correctly. Jim said we need to differentiate between Standard Specifications and Special Provisions. This group deals with the Standard Specifications. Jim asked Mont if the AGC was making a distinction. Mont said it was a general question. Darrell asked about the procedure for getting something to the AGC. Jim said it would go through Darrell to Rich Thorne at the AGC.



In response to a question about the submittal sheet Barry said they get the submittal sheet along with the specification when it is ready to go to the Standards Committee. Barry said the point is that before coming to them all the coordination should be complete, including with the AGC. The cutoff period is about two weeks prior to the meeting. Jason said we are not saying the submittal sheet goes to Darrell after Barry gets it. Barry said all the coordination listed on the submittal sheets needs to be completed before it is submitted to them for inclusion on the agenda. Darrell asked if the Committee wanted everything on spec changes going to the AGC to come through him. Dave said that was what they were saying. Barry said that's done before it comes to them. Darrell said we have to give the AGC time to make their comments. He asked Mont if that could be done in four weeks. Darrell asked if there was a way during his monthly meeting with AGC he could give them the next set of standards for their review, asking that they get comments back within two weeks. Dave said that would be a mandatory requirement now.

Barry said he was going to cover the Standards Committee policy so this discussion fits right into that discussion. Jim asked Barry if it was clear on what needed to be modified on the submittal sheet. Barry indicated he wasn't clear on it. Jim asked if we wanted to pass the information along to the Standards Committee representative for the AGC and ACEC or pass it to the head of each group. How do we want to do this? Mont said to send it to Rich Thorne and then he would discuss it with him. They would then pick a couple of representatives in that particular area to review the recommended change and provide input. Mont said if that doesn't happen after they get the change then it is their fault. Tyler said it could go through him. Darrell suggested putting email addresses on the submittal sheet so the forms could be sent directly. Barry said the wording in the policy and procedure would most likely have to be modified. Barry said it doesn't matter how long the review by AGC and ACEC takes. The item would come to them when that is complete and the item added to the appropriate agenda. If the suspense were missed it would go to the next meeting. The item could tentatively be put on the agenda and if not ready it would be dropped.

#### **Policy and Procedure Changes (08A5-1)**

Barry continued with the changes he was recommending to the policy and procedure so that it matched the way they now needed to do business. He said he updated the membership section with the addition of ACEC. Technology changes and the new Web site drove the changes. Barry pointed out the other changes to include the significant changes. The method for highlighting changes was updated for use with MSWord instead of WordPerfect. The next change was to Item 3 with the addition of Web site information for meeting dates and deadlines. Barry said these two changes were changes in methods. The next change is a significant change. Barry said that the time frame for getting updates to the Standards Section after a meeting was changed from 10 working days to five working days. Based on the 10 days with their review after that it could take a month before they get changes published. This should reduce that by a week or two and if the information is slow coming in Barry said they would find that out quicker. The rest of the changes to the policy were discussed earlier. He said he would update the submittal sheet based on previous discussions.

Barry asked if he needed to bring the policy back for approval at the next meeting. Jim said instead of trying to add the stakeholder information to Item C in the submittal sheet maybe we should add a new section called "Stakeholder Notification." It would say "send a copy to AGC and ACEC." Email would be used to do this. Jim said to give them two weeks to respond. If there is no response then that change isn't important to them. Jim said that if they respond then bring those comments to the group. Barry said he would put that procedure together and bring the policy back for approval. Barry said he would coordinate with Darrell to make sure the correct information is included.

### **What's New in the 2004 Standards**

Jason, referring to comments from his last meeting with the AGC, asked with the new 2004 Specification Book is there something in the book that explains the changes from the 2002 version. Farrell said it is on the Web site. Barry said they created a Web page that when you go to the 2004 section the first thing is a "What's New" link. Jim asked if it would be part of the hard copy. Barry said it is not part of the book. Barry said if they included the updates and changes in the book the size of the book would double. He said they went through the entire set of specifications cleaning up a lot of the references. Darrell said what the AGC was asking was there a setup for tracking changes. Farrell said a memo was posted that shows the changes between the 2002 and 2004 files. Jim said maybe you could just reference that and have the user refer to the Web page that shows the changes. Barry said a lot of the changes related to cleaning up how referencing is done in the specifications. Darrell asked that an email be sent to Rich Thorne with the Web address. (The email was sent on May 11, 2004.)

Jim asked if there were any other meeting improvements that needed to be discussed.

### **Notification of Updates**

Jim said Jason or Randy asked a question earlier that we didn't answer. How do we make sure the things that we passed here gets to the level it needs to get to for implementation? Jim said the traditional method has been through the membership. Is that working? Giving an example Jim said Randy as the region representative would go through the region directors on whatever was passed so they knew those things were done. Jim said Dave as the Structures representative would take the information back to his section. Darrell would take the information to the Region Construction Engineers. Barry said when they publish a change to the Web the end of that process includes an email to the Standards Update Subscription Group. Anyone can sign up for these updates though the Web. Barry said there are several hundred names on the subscription list, including the Standards Committee members. (Note: Currently there are 420 members subscribed for updates.) Barry said the email states there has been a change, listing the areas that have changed. The user can then check out the Web site to see what has changed. Barry asked if that was what they were getting at or is it something in addition to that.

Jason asked how could we be more proactive on it. He said the emails are good but we all get lots of emails and may never look at them. Jason gave an example of one person having over 600 emails that hadn't been opened. He said there are those types of individuals. Is there a better or effective method of letting people know of changes? Jason asked if something along the lines of a technical bulletin could be used. Barry asked if they could get together after to discuss this. Darrell commented about taking it to the RCE group for example. Karl said it could be a standard item for staff meetings. Karl said he doesn't see where the problem is, adding that people should have enough interest to look at the email and check out the Web site. Karl said he wasn't sure how to get people to do that. Comments included "how do you get someone to care" and "how do you get them to read." Karl said the stuff is there, but no one seems to take time to bother reading the information. Karl said there are probably ways to reach out a little more or get more focus.

There was no other discussion or business to cover.

11. Other Business: None.

Adjourned.

The next regular meeting of the Standards Committee has been scheduled for Thursday, June 24, 2004, at 8:00 a.m., in the 1st floor conference room of the Rampton Complex.

**Approval of Minutes:** The foregoing minutes were approved at a meeting of the Standards Committee held \_\_\_\_\_, 2004.

**Assignment/Action Item Log** (Updated April 29, 2004 following the meeting)

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
June 27, 2002  October 31, 2002    December 19, 2002  February 27, 2003  April 24, 2003  June 26, 2003  August 28, 2003  October 30, 2003  December 18, 2003  February 26, 2004  April 29, 2004	1	Standard Drawing PV 8 (Rumble Strip)    Process being reviewed. Research looking into testing.  A policy is to be developed over the next several months.  No change  No further updates. Target date changed.  Progress continuing. To work with Research.  Process continuing.  Still being worked.  No update  Jim to follow up with Research.	Darrell to assign someone from Construction. Richard Miller from Maintenance. Fred Doebling. Betty Purdie. Robert Hull to head the group.  Robert Hull Stan Burns  Robert Hull Stan Burns	Open	June 2004 meeting

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
December 19, 2002 February 27, 2003	2	01284 (Prompt Payment) discussion delayed for further review by AGC.	Chuck Larson	Open	June 2004 meeting
April 24, 2003		Being reviewed by Construction.	Darrell Giannonatti		
June 26, 2003		No change. Not due until August.			
August 28, 2003		Discussing with AGC. Updating with new Civil Rights Manager			
October 30, 2003		Discussions with AGC continue.			
December 18, 2003		Dropped from December 2003 meeting.			
February 26, 2004		Not on agenda.			
April 29, 2004		Something should be ready for next meeting.			

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
December 19, 2003	3	Painted Cattle Guard: With assistance from Research Division, Traffic and Safety to make recommendation.	Glenn Schulte John Leonard	Open	June 2004 meeting
February 27, 2003		No status.			
April 24, 2003		Traffic Engineering Panel to review			
June 26, 2003		No change. Not due until August.			
August 28, 2003		No change.			
October 30, 2003		Traffic and Safety and Research to work together to determine history and usage requirements.	Bob Hull Stan Burns		
December 18, 2003		No change in target date.			
February 26, 2004		Not on agenda.			
April 29, 2004		Still gathering information			
August 28, 2003	4	A new drawing depicting the four-legged intersection to be developed.	John Leonard	Open	August 2004 meeting
October 30, 2003		No change in status.			
December 18, 2003		Target date set.			
February 26, 2004		No change.			
April 29, 2004		Being developed			

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
August 28, 2003	5	Standard Drawing ST 4 (Crosswalks, Parking and Intersection Approaches) to be updated based on approval of ST 9.	John Leonard	Open	August 2004 meeting
October 30, 2003		No progress reported. Target date changed from October to February.			
December 18, 2003		On target.			
February 26, 2004		Not on agenda.			
April 29, 2004		Being developed			
December 18 2003	6	Team report on Maintenance and Construction review of Standard Drawings	Farrell Wright	Open	June 2004 meeting
February 26, 2004		Maintenance report presented. Construction report on April agenda.	Pete Negus		
April 29, 2004		Construction report presented. Task group formed to consolidation and coordinate all findings and to make recommended drawing changes.			
February 26, 2004	7	Research in conjunction with Environmental to put together a proposal/drawing for deer ramps.	Blaine Leonard Barry Sharpe	Open	No target date set
April 29, 2004		No new information reported			
February 26, 2004	8	Standards Section to begin formatting Standard Specification book for hard copy publishing.	Farrell Wright	Open	July timeframe for publication
April 29, 2004		Process continuing on schedule			

Date Initiated/Updated	Item #	Action	Assignments	Status	Target Date
April 29, 2004	9	Standard Drawings GW 5A, GW 5B, and GW 5C Pedestrian Access and Supplemental Specification 02771M, Curbs, Gutters, Driveways, Pedestrian Access Ramps, and Plowable End Sections: Coordinate with Materials to resolve concrete related issues in Supplemental Specification 02771M.  Coordinate on Standard Drawings GW 5A, 5B, and 5C.	Larry Montoya Bill Lawrence  Larry Montoya FHWA	Open	June 2004 meeting
April 29, 2004	10	Standard Drawing Publication: Coordinate on the verification or establishment of the proper Web links.  Include in bid system instructions the Contractor responsibility for downloading current Standard Drawings.	Barry Axelrod Construction Division  Darrell Giannonatti	Open	As soon as possible
April 29, 2004	11	Traffic Barriers: Task group to gather information and make a recommendation for a barrier type.	Jason Davis	Open	June 2004 meeting
April 29, 2004	12	Standard Drawing PV 4, Concrete Pavement Details For Urban and Interstate: Team from Construction and Materials to find a solution.	Darrell Giannonatti	Open	June 2004 meeting



<b>Closed Items From Last Meeting (April 29, 2004)</b>					
Date Initiated/Updated	Prior Item #	Action	Assignments	Status	Target Date
June 26, 2003	4	Standard Drawing TC 17, Traffic Control Single Lane Closure Moving/Intermittent Operations and TC 18, Traffic Control Multi-Lane Closure Moving/Intermittent Operations. Review drawings and coordinate with Maintenance people prior to presentation for approval.	John Leonard	Closed by John Leonard	Closed
August 28, 2003		Traffic and Safety to get more information on the requirements for the second vehicle and usage by other states.			
October 30, 2003		No progress reported. Target date changed from October to February.			
December 18, 2003		No change in target date.			
February 26, 2004		Not on agenda.			
April 29, 2004		No further information. Remove from log.			
February 26, 2004	10	Sam to work with Construction Division to get ATMS forms on the web and to update the Construction training manual.	Sam Sherman Jeff Saddler	Closed	Closed
April 29, 2004		Specifications approved. Forms already on web. Standards Section to set link in approved specifications			

## **Standards Committee Agenda Items Section**

Submittal Sheets, Standard Specification Drafts, Supplemental Specification Drafts, Standard Drawing Drafts, and other supporting data for the June 24, 2004 Standards Committee meeting follows.

No supporting items for the following agenda items.  
None.

## Standard Committee Submittal Sheet

Name of preparer: Barry Axelrod  
Title/Position of preparer: Technical Writer  
Specification/Drawing/Item Title: Hard Copy of Standard Specifications  
Specification/Drawing Number: N/A  
Date Process Started: \_\_\_\_\_ Date Process Completed: \_\_\_\_\_  
Status:    ☒ Approved    ☐ Disapproved    ☐ Sent Back For Review

**Enter appropriate priority level:** N/A  
(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

1. All Submittal Sheets must be completed and sent to the Standards and Specifications Section by the Standards Committee suspense date as shown on their web page. (<http://www.udot.utah.gov/index.php/m=c/tid=303>)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards and Specifications Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

For discussion of what files to use in printing hard copy book. The purpose of going to a hard bound book and supplemental specifications was to establish a consistent base of standard specifications for use on all projects. Once set the base book would not change. There has been some recent discussion of updating the standards just prior to having the book printed by a publishing company.

This would result in two sets of Standards, the March 15, 2004 version and the updated version. This seems to go against the reasoning for having the hard copy in the first place. There are currently 16 supplemental specifications in effect with six more on the June agenda.

A final decision on a base needs to be agreed on. If we were to incorporate the current supplemental specifications we would have addition work to update the table of contents and index as well as preparing the changed sections. This would delay the printing two or three weeks as a minimum.

The printing proposal has been out for almost two weeks with a selection possible within the next week. With delays we may not see the final book for several more months. At that point you have to consider delaying the entire process and do it as a 2005 book.

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

N/A

- C. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

N/A

Construction Engineers

N/A

Contractors

N/A

Suppliers

N/A

Consultants (as required)

N/A

Others (as appropriate)

N/A

- D. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.

N/A

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

N/A

3. Life cycle cost.

N/A

- E. Safety Impacts?

N/A

- F. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

Previous Committee discussions on record.

## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
| Priority 2 | Upon posting, this impacts projects being advertised.   |
| Priority 3 | Upon posting, the approved standard takes effect two weeks later for projects being advertised.   |

## Standard Committee Submittal Sheet

Name of preparer: Tim Biel  
Title/Position of preparer: Engineer for Materials  
Specification/Drawing/Item Title: Optional Use of Reclaimed Asphalt Pavement  
Specification/Drawing Number: Section 02968  
Date Process Started: June 3, 2004 Date Process Completed: \_\_\_\_\_  
Status: ' Approved ' Disapproved ' Sent Back For Review

Enter appropriate priority level: **3**

(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

1. All Submittal Sheets must be completed and sent to the Standards and Specifications Section by the Standards Committee suspense date as shown on their web page.  
(<http://www.udot.utah.gov/index.php/m=c/tid=303>)
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3. Notify the Standards and Specifications Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

***Section 02989 deals with recycled asphalt on projects with AC Graded oils. Section 02969 deals with those projects that use PG Graded oils. We no longer have any project specifying AC grades and the specification is unnecessary.***

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

### ***Deleted***

- C. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Construction Engineers

**Karl VerHaeren**

Contractors

**None**

Suppliers

***None***

Others (as appropriate)

**John Butterfield**

**Larry Gay**

**Rod Terry**

**Scott Andrus**

D. *Costs? (Estimates are acceptable.)*

1. Additional costs to average bid item price.

**Not Applicable**

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

***Not Applicable***

3. Life cycle cost.

***Not Applicable***

E. Safety Impacts?

***Not Applicable***

F. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.



## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
| Priority 2 | Upon posting, this impacts projects being advertised.   |
| Priority 3 | Upon posting, the approved standard takes effect two weeks later for projects being advertised.   |

## Standard Committee Submittal Sheet

Name of preparer: Tim Biel/Karl VerHaeren  
Title/Position of preparer: Engineer for Materials/Region 4 Construction Engineer  
Specification/Drawing/Item Title: Rotomilling  
Specification/Drawing Number: Section 02961  
Date Process Started: June 3, 2004 Date Process Completed: \_\_\_\_\_  
Status: ' Approved ' Disapproved ' Sent Back For Review

Enter appropriate priority level: **3**

(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

1. All Submittal Sheets must be completed and sent to the Standards and Specifications Section by the Standards Committee suspense date as shown on their web page.  
(<http://www.udot.utah.gov/index.php/m=c/tid=303>)
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3. Notify the Standards and Specifications Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

*Section 02961, Rotomilling, has a constraint in it that precludes it from doing what is intended. The specification requires significant grade control at the same time as trying to remove a specified depth. Quite often these two intentions conflict, leaving the Engineer to decide which is more important. Section 02963, Profile Rotomilling, was written to provide a smooth road without regard for specific depths. This modification will change the rotomilling specification so that it deals with specific depths without regard for smoothness.*

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

*No Change*

- C. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Construction Engineers

**Karl VerHaeren**

Contractors

**None**

Suppliers

**None**

Others (as appropriate)

**4 Region Materials Engineers**

**4 Region Pavement Management Engineers**

- D. *Costs? (Estimates are acceptable.)*

1. Additional costs to average bid item price.

**Slight Reduction if any, due to less need for smoothness attention.**

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

***Will require RMEs and PME's to decide ahead of time, which type of milling to perform. They are aware of this and agree it is a minimal issue.***

3. Life cycle cost.

***Not Applicable***

- E. Safety Impacts?

***Not Applicable***

- F. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
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**SUPPLEMENTAL SPECIFICATION  
SECTION 02961M**

**ROTOMILLING**

Delete Article 3.1 and replace with the following:

**3.1 PROCEDURE**

- A. Rotomill existing bituminous pavement surface to the width and depth shown on the plans to an accuracy of  $\pm 3/8$ -inch of plan depth, measured from original surface to the top of the ridge.
  - 1. Maintain depth tolerance. Do not use skis or other profile grade control devices if the specified depth tolerance cannot be met with their use.
- B. Rotomill the area directly surrounding manholes, catch basins, water meters, water valves or any other permanent fixtures to the specified depth.
- C. The Engineer:
  - 1. Measures and records rotomilling depths, taking two random measurements every 1,000 ft of each pass of the milling machine.
  - 2. May adjust the depth of the milling operation, within tolerances, to remove unacceptable material or to improve ride.
- D. Load the reclaimed material from milling operation into a truck in one operation. Milled material is the property of the Contractor, unless specified otherwise by the Engineer.

END OF SECTION

## Standard Committee Submittal Sheet

Name of preparer: Barry Axelrod  
Title/Position of preparer: Technical Writer  
Specification/Drawing/Item Title: Standards Committee Policy - 08A5-1  
Specification/Drawing Number: N/A  
Date Process Started: \_\_\_\_\_ Date Process Completed: \_\_\_\_\_  
Status:    ☒ Approved    ☐ Disapproved    ☐ Sent Back For Review

**Enter appropriate priority level:** N/A  
(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

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Complete the following: (Use additional pages as needed.)

- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

The policy is being updated to bring it in line with current practices and to make changes based on the April 2004 Standards Committee meeting.

Procedures added to cover AGC and ACEC coordination based on the April 2004 meeting.

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

N/A

- C. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

N/A

Construction Engineers

N/A

Contractors

N/A

Suppliers

N/A

Consultants (as required)

N/A

Others (as appropriate)

N/A

D. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.

N/A

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

N/A

3. Life cycle cost.

N/A

E. Safety Impacts?

N/A

- F. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

Previous Committee discussions on record.

## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
| Priority 2 | Upon posting, this impacts projects being advertised.   |
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## Standards Committee

Effective: June 30, 1967

## UDOT 08A5-1

Revised: ~~June 24~~[April 29](#), 2004

### Purpose

To establish the procedure and place responsibility for the development, revision, and preparation of standard drawings, specifications, and related policies and procedures, and for their review, approval, printing, and distribution.

### Policy

The Standards Committee reviews and approves all standard drawings, specifications, [supplemental specifications](#), and related policies and procedures prior to implementation. The Committee also considers relevant matters presented to it by interested units or individuals, formulating appropriate action within its scope of responsibility.

The Standards Committee is composed of eight permanent members, with the Project Development Engineer as chairperson and the Standards and Specifications Engineer serving as secretary. Membership, representing the offices, divisions, sections, or units as indicated, are as follows:

#### Members

Director, Project Development

Region Director (Appointed by the Deputy Director)

Director, Engineering Services

Director, Construction and Materials

Engineer for Materials

Engineer for Maintenance

Engineer for Traffic & Safety

State Bridge Engineer

#### Advisory Members

Federal Highway Administration (FHWA)

Associated General Contractors ([AGC](#))

[American Council of Engineering Companies, Utah Branch \(ACEC\)](#)

Members should appoint a substitute when the member is unable to attend a meeting. The substitute assumes full authority to bind the represented division to a decision by vote or other action in matters pertaining to the Standards Committee. ~~All positions will be continually filled by qualified individuals~~Qualified individuals will continually fill all positions.

Temporary advisory members may be selected by the Committee to advise and assist when specialized talents are needed. Advisory members do not have the power to vote. However, FHWA approval is required for all standard drawings, standard specifications, and supplemental specifications, where Federal participation is anticipated.

Robert's Rules of Order will generally be followed, and in matters not provided for or not applicable, the Committee may formulate its own rules of procedure. Five members are required to constitute a quorum. As a matter of rule, items presented at a regularly scheduled meeting can be approved at that meeting if Attachment 1 has been completed in sufficient detail for the Committee to make an approval decision. Items presented at special meetings will be handled on a case-by-case basis.

Meetings are normally scheduled for the last Thursday, every other month, starting at 8:00 a.m., for four hours. The chairman may call or cancel a meeting, depending upon the quantity and urgency of the business at hand. Meetings may also be called by three or more of the permanent members.

The Deputy Director has final approval authority of actions of the Standards Committee.

~~Changing the membership will be approved by the Deputy Director~~The Deputy Director approves all membership changes.

## Definitions

### **Sponsor**

An individual or task force (appointed by the Chairman of the Standards Committee) presenting an item to the Standards Committee. The sponsor should be a member of the Standards Committee or be in contact with a Committee member who is familiar with the subject matter contained in the document.

### **Technical Staff Support**

That support provided by the Standards and Specifications Section to the sponsor identifying the need for a new or revised document. Works closely with the sponsor or with a task force in the actual preparation of draft or final documents, including supporting documentation.

That support provided by the Standards and Specifications Section to take actions related to meeting minutes and agenda.

### **Draft Document**

Document prepared for review by the Standards Committee and conforming to specified guidelines.

**Final Document**

Documents prepared from approved drafts for final review and approval by the Standards Committee and conforming to specified guidelines.

## Procedures

### Preparation and Approval of Documents by the Standards Committee UDOT 08A5-1.1

**Responsibility:** Sponsor

#### Actions

1. Determine need to develop new or revised standard drawings or specifications or the need to present information of interest to the Committee.

**Responsibility:** Sponsor (with assistance from the Standards & Specifications Section)

2. Prepare draft of new or revised specifications, standard drawings, or general information as specified below.
  - (a) Specifications, Supplemental Specification. In the case of a revised document, prepare the draft in with the MS Word Track Changes option turned on. UDOT modified rulemaking format as described in UDOT procedure 05-13.2, step 2, to show where and how changes are being made.
  - (b) Standard Drawing. Prepare the draft.
  - (c) General Information. Prepare the draft in a format suitable for the information.
3. Complete Procedure 08A5-1.4, Stakeholder Notification and return to the next step on completion of Procedure 08A5-1.4 or after 14 calendar days if no comments are received.
43. Submit all pertinent information including a completed attachment 1, specifications, or drawings to the Standards & Specifications Section at least fourteen working days before a regularly scheduled Standards Committee meeting. Refer to the Standards Committee Web site at <http://www.udot.utah.gov/index.php/m=c/tid=303> for meeting dates and deadlines. Include all electronic files where possible ~~except for standard drawings when the drawing was prepared by the Standards and Specifications Section.~~ (Attachment 1 not required for editorial or minor changes)

**Responsibility:** Standards & Specifications Section

54. Review related documents and make any changes that may be required as a result of the draft of new or revised standard drawings, specifications, or information.

65. Prepare the agenda in accordance with UDOT procedure 08A5-1.2.
76. ~~Publish the Send the~~ entire package to the Standards Committee Web site and send out email notice of publication ~~members and sponsors at least ten working days before the meeting~~ in accordance with UDOT procedure 08A5-1.2.

**Responsibility:** Standards Committee Members

87. Review the agenda with attachments prior to the Committee meeting.

**Responsibility:** Sponsor/Presenter

98. Present the draft of new or revised standard drawings, specifications, or general information with supporting documentation and explanation to the Standards Committee.

**Responsibility:** Standards Committee

109. Take one of the following actions:
- (a) Discuss the standard drawing, specification, or information as presented. Approve the item as presented, or.
  - (b) Discuss the standard drawing, specification, or information as presented. Approve the item with minor changes, or
  - (c) Refer the standard drawing, specification, or information back to the Sponsor so that the Sponsor can make significant-required changes before bringing the item back to the Committee, or
  - (d) Reject/defer the standard drawing, specification, or information.

**Responsibility:** Sponsor and Standards & Specifications Section

1140. When either step 109 (a) or 109 (b) is taken, prepare the final copy of the standard drawing, specification, or information as required and as specified below.
- (a) Specifications, Supplemental Specifications. Remove all markings made in accordance item 2A above. with the UDOT modified rulemaking format. Place the effective date of the change on the document in the upper right corner of the first page of the specification. The effective date is the approval date (meeting date) unless a future date is approved by the Committee. Make any approved or editorial changes in accordance with Step 1342.

- (b) Standard Drawings. Make any approved or editorial changes in accordance with Step [1342](#). On the final drawing(s), place the approval date in both “Recommended for Approval” and “Approved” date lines. The dates are the date that Standards Committee approves the drawing.
- (c) General Information. Prepare the final copy in a format suitable for the information. Make any approved or editorial changes in accordance with step [1342](#).

[1244](#). When step 9(c) is taken, make the necessary changes and go back through steps 2 through 10.

**Responsibility:** Sponsor

[1342](#). Make the editorial changes to an approved item and send electronic files to the Standards & Specifications Section within ~~fiveten~~ working days from the date of the meeting. If approved with no changes, check with the Standards Section to make sure they have all needed files.

**Responsibility:** Standards & Specifications Section

[1443](#). For approved standard specifications, supplemental specifications or standard drawings complete step ~~1644 or 15~~ of -UDOT procedure 08A5-1.2.

## Preparation of Minutes and Distribution of Minutes and Approved Items UDOT 08A5-1.2

**Responsibility:** Standards and Specifications Section

### Actions

1. Attend Standards Committee meeting and as required, gather information needed to transcribe meeting minutes.
2. Following the meeting, prepare a draft of the minutes for review by the Committee Secretary.

**Responsibility:** Standards Committee Secretary

3. Review and edit the draft of the meeting minutes.

**Responsibility:** Standards and Specifications Section

4. Gather information needed to prepare agenda for the next meeting.
5. Make required changes to the meeting minutes.
6. Update the agenda section of the minutes.
7. Review all submitted files and information. Update or prepare standard specifications, supplemental specifications and standard drawings.
8. Create PDF files of submitted items and compile into one PDF file package.
98. Publish the agenda package to the Standards Committee Web site. Transmit the cover memo, minutes, and any electronic files except standard drawings by Electronic Mail to all Committee members, sponsors, and visitors at least ten working days prior to the next regularly scheduled meeting.
109. Send an e-mail to the "Standards Committee Issues" group advising them that the agenda package has been published to the Standards Committee Web site.
11. Make and distribute hard copies of the package to the Chairman and the Standards Section. of cover memo, minutes, standard drawings, and any non-electronic file information to all members and sponsors. Hard copy not required if no standard drawings or non-electronic files.

**Responsibility:** Standards Committee

1240. Approve with or without modifications, the minutes of the previous meeting.

1344. Take action on agenda items in accordance with UDOT procedure 08A5-1.1.

**Responsibility:** Standards and Specifications Section

1412. Make any required changes to the meeting minutes.

1513. File the minutes as required ~~and update the Folio infobase.~~

1614. Publish all changes ~~Begin the “Checklist for Standard/Supplemental Specification Processing”~~ within fifteen working days from the last Standards Committee meeting.

~~15. —Begin the “Checklist for Standard Drawing Processing” within fifteen working days from the last Standards Committee meeting if there are a least six drawings being published. When fewer than six drawings, it may be necessary to wait until a subsequent meeting so there are at least six drawings to be published. While not economical, fewer than six drawings can be published if there is an urgent need to publish one or more drawings.~~



Approval By FHWA

UDOT 08A5-1.3

**Responsibility:** Standards and Specifications Section

### **Actions**

1. Compile an approval memo as part of each change to the Standard Specifications and Standard Drawings. ~~quarterly packet of all Standards Committee approved standard specifications, supplemental specifications, or standard drawings.~~
2. Submit the packet as soon as possible after the changes have been prepared. ~~first working day of each quarter (January, April, July, and October).~~

**Responsibility:** FHWA

3. Review and process approval of all submitted packets for use on Federal aid projects.
4. Provide letter of approval to UDOT.

**Responsibility:**     Sponsor

**Actions**

1.     Send a copy of the proposed Standard Specification, Supplemental Specification or Standard Drawing and Submittal Sheet by email to the AGC and ACEC Standards Committee representative. If no Submittal Sheet is available provide a memo that outlines the change and the reason for the change.

**Responsibility:**     AGC/ACEC Committee Memeber

2.     Select at least two AGC or ACEC members to review and comment on the proposed change. Review and process approval of all submitted packets for use on Federal aid projects.
3.     Provide comments be return email within 14 calendar days to the Sponsor.

**Responsibility:**     Sponsor

4.     Return to Procedure 08A5-1.

# Attachment 1 - Standard Committee Submittal Sheet

## Standard Committee Submittal Sheet

Name of preparer: \_\_\_\_\_  
Title/Position of preparer: \_\_\_\_\_  
Specification/Drawing/Item Title: \_\_\_\_\_  
Specification/Drawing Number: \_\_\_\_\_  
Date Process Started: \_\_\_\_\_ Date Process Completed: \_\_\_\_\_  
Status: ' Approved ' Disapproved ' Sent Back For Review

### Enter appropriate priority level:

(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

1. All Submittal Sheets must be completed and sent to the Standards and Specifications Section by the Standards Committee suspense date as shown on their web page.  
(<http://www.udot.utah.gov/index.php/m=c/tid=303>)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards and Specifications Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)

- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

C. Stakeholder Notification for AGC and ACEC:

By email provide the AGC and ACEC Standards Committee member a copy of all pertinent information relating to the specification or drawing. Detail all responses below. Indicate if no comments were received.

AGC Comments: (Use as much space as necessary.)

ACEC Comments: (Use as much space as necessary.)

D. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

———In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

Construction Engineers

Contractors

Suppliers

Consultants (as required)

Others (as appropriate)

ED. Costs? (Estimates are acceptable.)

|

1. Additional costs to average bid item price.
2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).
3. Life cycle cost.

FE. Safety Impacts?

|

GF. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

|

## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
| Priority 2 | Upon posting, this impacts projects being advertised.   |
| Priority 3 | Upon posting, the approved standard takes effect two weeks later for projects being advertised.   |

## Standard Committee Submittal Sheet

Name of preparer: Bill Lawrence

Title/Position of preparer: UDOT Concrete Engineer

Specification/Drawing/Item Title: **Revised Standard**

02753 Full Depth Slab Replacement for Concrete Pavements

New Standard

02754 Dowel Bar Retrofit

**New Standard**

**02755 Partial Depth Repair for Concrete Pavements**

**New Standard**

02960 (02962) Grinding Pavement

**Revisions in Measurement & Payment Book**

Section 02753: Full Depth Slab Replacement for Concrete Pavement

**Additions to Measurement & Payment Book**

Section 02754 Dowel Bar Retrofit

Section 02755 Partial Depth Repair for Concrete Pavements

Section 02960 Grinding Pavement

Specification/Drawing Number: Revised 02753, new 02754, 02755 & 02960

Date Process Started: 2/4/2004

Date Process Completed: \_\_\_\_\_

Status:    ☒ Approved    ☐ Disapproved    ☐ Sent Back For Review

**Enter appropriate priority level:    2**

(See last page for explanation) \_\_\_\_\_

Sheet not required on editorial or minor changes to standards.

### NOTES:

1. All Submittal Sheets must be completed and sent to the Standards and Specifications Section by the Standards Committee suspense date as shown on their web page.  
(<http://www.udot.utah.gov/index.php/m=c/tid=303>)
2. The Preparer of the Submittal Sheet or the Standards Committee member (or authorized substitute) responsible for the submittal must be present at the Standards Committee meeting and capable of discussing and answering all questions related to the submittal. The item will be postponed to a later meeting if one of these people is not present.
3. Notify the Standards and Specifications Section immediately of any changes that impact the presentation to include absence of sponsor or delay in presentation.

Complete the following: (Use additional pages as needed.)



- A. Why? Detail the reason for changing the Standard (Specification or Drawing), what has initiated a new Standard, or what has caused a new or changed item of interest.

In the January Utah Pavement Council Meeting, industry requested a review of UDOT's Concrete Repair Procedures.

Summary of minutes for this item from the January Utah Pavement Council Meeting:

Concerns raised regarding the methods and materials used on a project in Region 1. UDOT should form a committee including private interests to review and make improvements to UDOT's specifications and special provisions regarding concrete rehabilitation procedures.

**Committee Members: John Butterfield – Region 2 Materials**

Bill Lawrence – UDOT Materials

Tim Biel – UDOT Materials

Todd Laker – Holcim Cement

Mitzi McIntire – ACPA

This committee met monthly reviewing and updating the Concrete Pavement Repair (CPR) procedures. They were then submitted to the Utah Pavement Council, and the RME committee for reviews and revisions.

- B. How is Measurement and Payment handled? Existing (from the measurement and payment document), modified, or new measurement and payment to be included with all Standard Specifications or Supplemental Specifications.

**Revisions in Measurement & Payment Book**

Section 02753: Full Depth Slab Replacement for Concrete Pavement

**Additions to Measurement & Payment Book**

Section 02754 Dowel Bar Retrofit

Section 02755 Partial Depth Repair for Concrete Pavements

Section 02960 Grinding Pavement

- C. Stakeholders? From the list provided, document the stakeholders contacted, detailing: the company, name of contact, how contacted (by phone, email, hard copy, or in person), concerns, and comments of the change. Stakeholders:

All members of the Utah Pavement Council were involved either by attending or E-mail notification. This included representation from UDOT's Materials (UDOT Materials Engineer, RME's & Central Lab personnel) and Construction (CE's and UDOT's Construction Engineer), as well as private industry including cement suppliers, American Concrete Pavement Association, Ready Mix Suppliers and Contractors.

In-house (for example, preconstruction, materials, construction, safety, design, maintenance) (Include all applicable in-house areas even if not listed above.)

D. Costs? (Estimates are acceptable.)

1. Additional costs to average bid item price.

None

2. Operational (For example, maintenance, materials, equipment, labor, administrative, programming).

None

3. Life cycle cost.

Improved

E. Safety Impacts?

None

F. History? Address issues relating to the current usage of the item and past reviews, approvals, and/or disapprovals.

## **Priority Explanation**

Enter the appropriate priority in the box on the first page of the document.

- |            |   |
|------------|---|
| Priority 1 | Upon posting, this impacts all projects in construction and design with a Change Order, Addenda, and immediate change to projects being advertised. |
| Priority 2 | Upon posting, this impacts projects being advertised.   |
| Priority 3 | Upon posting, the approved standard takes effect two weeks later for projects being advertised.   |

**Supplemental Specification  
2004 Standard Specification Book**

**SECTION 02753**

**FULL DEPTH SLAB REPLACEMENT FOR  
CONCRETE PAVEMENTS**

**Delete Section 02753 and replace with the following:**

**PART 1      GENERAL**

**1.1      SECTION INCLUDES**

- A.      Remove ~~full~~ panel or partial panel ~~full depth~~ of existing pavement. |
- B.      Clean, grade and reconsolidate base.
- C.      Install dowels and/or tie bars.
- D.      ~~Furnish and replace repair material.~~ Replace and cure repair material. |

**1.2      RELATED SECTIONS**

- A.      Section 02752: Portland Cement Concrete Pavement. |
- B.      Section 03055: Portland Cement Concrete. |
- C.      Section 03152: Concrete Joint Control. |
- D.      Section 03310: Structural Concrete. |
- E.      Section 03390: Concrete Curing

**1.3      REFERENCES**

- A.      American Concrete Institute (ACI) ~~Guide~~ 309: Guide for Consolidation of Concrete |

## PART 2 PRODUCTS

### 2.1 FULL DEPTH CONCRETE PAVEMENT REPAIR MATERIAL

~~A.~~ ~~A.~~ Follow Section 02752, except:  
~~except that it~~ 1. It is acceptable to use High Range Water Reducers, the use high range water reducers. (Super Plasticizers).

~~B.~~ ~~Provide concrete mix design for verification following Section 02752.~~

C.2. Contractor may accelerate the rate of concrete strength gain to match the field placement schedule with written permission from the Engineer.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Remove panel, panels, or panel section.
  - 1. Determine the extent/dimensions of the repair from the plan sheets, or as directed by the Engineer. Adhere to the requirements of PV series Standard Drawings.
  - 2. Complete removal, make full depth cuts around the perimeter of the rectangular section to be removed. Minimize saw over-cuts.
  - 3. Remove panels by lift-out method. Use chains and lift pins to facilitate removal and minimize disturbance of the base material.
  - 4. Repair damage caused by the Contractor's operations to adjacent slabs and underlying base courses.
  - 5. Remove all loose particles of old Portland Cement Concrete (PCC), prior to placing new PCC.
- B. Reconstruct base to grade, and compact to standard specifications.
- C. Form any side that does not have an adjacent panel. Form to match existing panels, providing a vertical edge.
- D. Place dowel and/or tie bars.
  - 1. Place bars in locations as per PV series Standard Drawings. Use tie-bars or smooth dowels where indicated on standard drawings.
  - 2. Stockpile bars in an area where they are kept clean and free from damage.
  - 3. ~~3.~~ Drill holes mid-depth of the slab without causing damage to the remaining pavement section and orient holes such that bar placement

- tolerances can be met. ~~Use gang drills, unless otherwise approved by the Engineer.~~
4. ~~Drill multiple holes simultaneously with drills held horizontally in a rigid frame. Prevent drill bits from wandering.~~
  - 4.5. Clean holes of dust, grease and other contaminants.
  - 5.6. Inject epoxy gel, Type II bonding compound into the back of the drilled hole.
    - a. ~~Select from the~~ Use material on the UDOT Performance Data Products Listing (PDPL) maintained by the UDOT Research Division.
    - b. Provide sufficient quantity of bonding compound to completely fill the void between the bar and the outer limits of the drilled hole.
    - c. While inserting bar, rotate one full revolution.
    - e.d. Use retention rings to prevent the bonding compound from flowing out of the hole.
  - 6.7. Align bars horizontally and vertically to meet requirements of the standard drawings and allow them to stabilize prior to mix placement.
  8. ~~7.~~ Repair any bar coating damage with appropriate repair material.
  9. Protruding dowels used at expansion joints should have tight fitting end caps made of non-metallic materials that allows for 1/4 inch movement. Submit a sample of the end caps to the Engineer for approval prior to use on the project.
  - 8.10. Coat protruding portion of dowel bar with lubricant consisting of paraffin wax, lithium grease or other semi-solid, inert lubricant approved by the Engineer.
  9. ~~Set bonding compound and stabilize bar prior to mix placement. Remove 11.~~  
Remove and replace loose bars, at the Contractor's expense, prior to placing concrete mix.
- E. Prepare existing joints for placement.
1. Maintain existing pavement joint layout.
  2. Place a bond breaker approved by the Engineer, on the existing pavement edges that compose existing joints, either transverse or horizontal.
  3. Saw joint on the same line if repairs straddle an existing joint line. Perform sawing in accordance with Section 03390.

### 3.2 PLACING CONCRETE

- A. Place concrete in compliance with Section ~~03340.02752.~~
- B. Consolidate the mix ~~with a mechanical vibrator in accordance with ACI 309 guidelines. Do not over consolidate. Do not use hand vibrators to move mix.~~ in compliance with Section 02752.

- C. ~~Discard any unused mix after 30 minutes from the time mixing was completed for accelerated strength gain rate mix designs. Place normal mixes in accordance with~~Weather Limitations – Section 03055.

~~D. —Weather Limitations—Place, cure and protect in accordance with Section 02752.~~

### 3.3 CONCRETE FINISHING

- A. Finish patch to +/- 1/8 inch of existing profile.
1. Correct patch profiles in excess of 1/8 inch higher than the existing pavement profile through surface grinding or removal and replacement.
  2. Correct patch profiles in excess of 1/8 inch lower than the existing pavement profile through removal and replacement of the patch.
  3. Contractor pays for any corrections to the finish of the patch.
- B. Do not tool joints that are to be saw-cut and sealed.
- C. Texture the surface to match the existing pavement.

### 3.4 ~~CURING CONCRETE~~CONCRETE CURING AND PROTECTION

- A. Cure the ~~slab surface before it begins to dry with material meeting the requirements of Section 03152. Uniformly spray the surface at a minimum rate of 0.44 gal/yd<sup>2</sup>.~~concrete pavement according to Section 03390.
- B. Do not open to traffic until ~~compressive~~specified strength ~~tests show that a minimum of 3,000 psi has been~~is reached.
- C. Cut all previously existing joints to original dimensions.
- D. Fill all sawing overcuts with ~~a repair epoxy from the~~approved Repair Epoxy on the UDOT Performance Data Products Listing (PDPL)~~maintained by the UDOT Research Division.~~
- E. Replacement slab must perform under traffic at specified time of opening without failure.
- F. ~~F.~~ Contractor pays for removing and replacing any defective panels. Refer to Section ~~02752.02752, Part 3, article, “Defective Pavement Panels.”~~

### 3.5 ~~PROTECTION~~

~~A. Protect~~ G. Protect the individual placements with approved barricades.

### 3.5 LIMITATIONS

A. Refer to Section 03055.

END OF SECTION



**Supplemental Specification  
2004 Standard Specification Book**

**SECTION 02754**

**DOWEL BAR RETROFIT**

**Add Section 02754:**

**PART 1      GENERAL**

**1.1      SECTION INCLUDES**

- A.      Procedures and materials for installing coated dowel bars across existing transverse joints and cracks.

**1.2      RELATED SECTIONS**

- A.      Section 03211: Reinforcing Steel and Welded Wire.

**1.3      REFERENCES**

- A.      AASHTO M 148: Liquid Membrane-Forming Compounds for Curing Concrete.
- B.      UDOT: Performance Data Products Listing (PDPL)

**PART 2      PRODUCTS**

**2.1      MATERIALS**

- A.      Dowel Bars: 1 1/2 inch x 18 inch, smooth steel rod, following Section 03211.
- B.      Bond Breaking Compound: Use a bond-breaking compound approved by the Engineer.
- C.      Chair Devices: Devices used to support and hold the dowel bar in place should be coated according to Section 03211, or made of non-metallic materials. Devices should provide a minimum clearance of 1/2 inch between the bottom of the bar and the surface upon which the chair is placed.

- D. End Caps: The dowels should have tight fitting end caps made of non-metallic materials that allows for 1/4-inch movement of the bar at each end. Submit a sample of the end caps to the Engineer for approval prior to use on the project.
- E. Caulking Filler: Use a standard commercial silicone sealer specified for use with concrete surfaces. Submit a sample of the caulking filler to the Engineer for approval prior to use on the project.
- F. Patching Material: Select from the PDPL, Portland Cement Concrete Repair Materials - Horizontal, or an approved equal, to replace the concrete pavement that was removed to install the dowel bars. Use mix with 1/4 inch nominal maximum aggregate size. Submit a sample of the material to the Engineer for approval prior to use on the project.
- G. Joint/Crack Preservation Material: Use a rigid removable material capable of maintaining the joint or crack.

## **2.2 EQUIPMENT**

- A. Jackhammers: To prevent spalling, use jackhammer less than the nominal 30 pound class.

## **PART 3 EXECUTION**

### **3.1 CONSTRUCTION**

- A. Saw cut the pavement as required per standard Drawing PV 8.
- B. Jackhammer and sand blast to clean all exposed surfaces and cracks, removing slurry and loose concrete.
- C. All residues from the saw, jackhammer and sand blasting process become property and responsibility of the contractor.
- D. Fill the contraction joint as per Standard Drawing PV 8.
- E. Pre-coat the dowel bars with a bond-breaking compound.

- F. Place the foam core board at the middle of the dowel bar to maintain the transverse joint or crack. The foam core board shall fit tightly around the dowel bar and to the bottom and edges of the slot. The foam core board shall be capable of remaining in a vertical position and tight to all edges during placement of the patching material as per Standard Drawing PV 8.
- G. Any dowel bars damaged shall be repaired or replaced at the contractor's expense and at no cost to the Department.
- H. Thoroughly moisten all surfaces of the slot immediately prior to filling with patching material. Care should be taken to prevent standing water in the slot. Remove all excess water with compressed air.
- I. Fill the slot with an approved patching material. Consolidate the material in the slot and around the dowel bar with an appropriate size vibrator. Finish patching materials to existing surfaces. The patching material should be placed and cured in accordance with manufacturer's specifications. Cure using ASHTO M-148, Type 1-D, Class A.
- J. Replace any individual dowel bar retrofit not functioning or damaged at contractor's expense and at no cost to the Department.
- K. Remove joint preservation material to a depth of two inches and reseal.

END OF SECTION

**Supplemental Specification  
2004 Standard Specification Book**

**SECTION 02755**

**PARTIAL DEPTH REPAIR FOR  
CONCRETE PAVEMENTS**

**Add Section 02755:**

**PART 1      GENERAL**

**1.1      SECTION INCLUDES**

- A.      Remove spalled or delaminated concrete in the upper one-third to one-half of the pavement; clean, maintain, and prepare joints; furnish, place and cure patch material.

**1.2      RELATED SECTIONS**

- A.      Section 03055: Portland Cement Concrete
- B.      Section 03390: Concrete Curing

**1.3      REFERENCES**

- A.      ASTM D 3405: Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements
- B.      UDOT Performance Data' Products Listing

**PART 2      PRODUCTS**

**2.1      PARTIAL DEPTH CONCRETE PAVEMENT REPAIR MATERIAL**

- A. As per Section 03055, Part 2, with the following changes:
  - 1. Patching Material - Use an approved product from the UDOT *Performance Data' Products Listing* or Portland Cement Concrete, according to manufactures recommendation.
  - 2. Use of High Range Water Reducers is acceptable (Super-Plasticizers).
  - 3. Adjust mix design to meet project scope and limitation of operations.

4. Submit trial batch data to Engineer and Region Materials Lab. Trial batch data will be evaluated and accepted or rejected by the Engineer.
5. Have mix design representative on site for placement.
6. Provide concrete mix design for verification as per Section 03055, Part 3.

## **2.2 CONCRETE CURING SEALING COMPOUND**

- A. Refer to Section 03390.

## **PART 3 EXECUTION**

### **3.1 REMOVE SPALLED OR DELAMINATED CONCRETE**

- A. Complete removal with concrete saws and 30 pound class or smaller hand jackhammers.
- B. Establish rectangular or circular sections, extending at least 2 inches beyond a spalled area, or 6 inches beyond the failed areas determined by sounding. Provide vertical perimeter saw cuts of 2-inch minimum depth. Maintain uniform depth of the repair area.
- C. Repair any damage caused by the Contractor's operation at the Contractor's expense.
- D. If, in the removal process, the actual spalled/delaminated area is determined to extend beyond what the Department initially marked, the Department's representative will remark the area. Removal and repair of any such extended areas will be paid under the Contractor's unit bid price for Partial Depth Slab Repair.

### **3.2 CLEAN ALL EXPOSED SURFACES**

- A. Remove all loose particles, oil, dusts, traces of asphalt concrete, or other contaminants. Use sandblasting or waterblasting (Minimum 2000 psi).
- B. Remove all cleaning grit prior to placement.
- C. Oil sprayed by air blowing equipment is prohibited.
- D. Sandblast clean or remove partially exposed reinforcing steel prior to placing the patch material.

### **3.3 PREPARE EXISTING JOINTS FOR PLACEMENT**

- A. Maintain Existing Joints: Before placing the mix, insert a removable material (i.e. cardboard, polyfoam, fiberboard, etc.) that will maintain a width equal to the opening in all working joints and cracks within or adjacent to the patch. The material shall be of uniform size and thickness.
- B. Place the material 1-inch below and 3 inches laterally beyond the patch boundary. Do not widen the existing joint to provide for, or facilitate placement of, the removable joint forming material.

### **3.4 CONCRETE PLACEMENT**

- A. Use mixes that have been approved by the Engineer.
- B. Finish the patch surface to within 1/8 of an inch of the existing pavement.
- C. Do not place prior to having a manufacturer representative on site. Manufacturer will address the following requirements;
  - 1. On site mixing permissibility and constraints.
  - 2. Surface preparation of the repair area and appropriate bonding agent.
  - 3. Consolidation requirements.
  - 4. Pot life of mix.
  - 5. Environmental conditions and limitations.

### **3.5 CONCRETE FINISHING**

- A. Finish from the center of the repair toward the boundaries.

### **3.6 CONCRETE CURING AND PROTECTION**

- A. Cure the patched surface immediately after finishing operations with the material meeting Section 03390, article 2.2, with the following change;
  - 1. Uniformly spray the surface at a rate of 50 ft<sup>2</sup>/gallon.
- B. When temperatures fall below 50 °F, follow manufacturer's representative recommendations for cold weather curing and protection.
- C. Maintain mix temperature during curing period to coincide with trial batches or as required by manufacturer.

- D. Do not open to traffic until specified strength has been reached by testing. Testing will be performed by the department
- E. Protect the individual placements with an approved traffic control device.
- F. Remove and replace, to the Engineer's satisfaction, all at the Contractor's expense, any patches that are rejected before substantial completion, due to the following:
  - 1. Failures due to cracking (any visible crack), shrinkage (breaking of bond between patch and pavement), or pop-outs (pieces of pavement broken loose from surface greater than 1/2 inch diameter).
  - 2. Unsatisfactory or improper workmanship by the contractor, including patches with surface profiles that vary from the existing roadway profile by more than 1/8 inch. Patches with a profile higher than 1/8 inch from the existing roadway profile may be ground to meet existing profile in lieu of removal and replacement.
  - 3. Failures due to damage by the Contractor's operations or public traffic.
- G. Fill overcuts flush to the pavement surface with an approved repair epoxy on the *UDOT Performance Data' Products Listing*.
- D. Remove joint forming material and fill all affected joints with hot pour (ASTM D3405) material.

### **3.7 CLEANING PAVEMENT**

- A. Roadway and shoulders shall be swept of all debris prior to opening to traffic. Prevent damage to the patches from cleaning equipment.

### **END OF SECTION**

**Supplemental Specification  
2004 Standard Specification Book**

**SECTION 02962**

**GRINDING PAVEMENT**

**Add Section 02962:**

**PART 1      GENERAL**

**1.1 SECTION INCLUDES**

- A.      Procedure for grinding existing concrete pavements.

**1.2      RELATED SECTIONS**

- A.      Section 01452: Smoothness

**PART 2      PRODUCTS**

**2.1      EQUIPMENT**

- A.      Provide and operate equipment utilizing diamond blades mounted on a self-propelled machine designed for grinding and texturing pavement.
- B.      Do not use equipment that will causes damage to the transverse or longitudinal joints.
- C.      Use vacuuming equipment necessary to remove residue and excess water.

**PART 3      EXECUTION**

**3.1      GRINDING**

- A.      Grind until the surface of both sides of the transverse joints and cracks are in the same plane and meet the smoothness required.
- B.      Provide a uniform finished texture.
- C.      Perform grinding in a longitudinal direction. Begin and end grinding at lines



normal to the pavement centerline.

- D. Do not cause damage to the underlying surface of the pavement.
- E. Provide resultant surface in a parallel, corrugated type texture consisting of grooves between 0.090 and 0.150 inches wide. The distance between the grooves shall be between 0.060 and 0.13 inches. The peaks of the ridges shall be approximately 1/16 inch higher than the bottom of the grooves. Maintain cross slope drainage.
- F. Provide uniform transverse slope of the pavement with no depressions or misalignment of slope greater than ¼ inch in 10 feet when tested with a 10-foot straightedge.
- G. Do not grind structures.
- H. All residue from the grinding process becomes property and responsibility of the contractor.

### **3.2 SMOOTHNESS TESTS**

- A. Determine pavement lane smoothness using a Profilograph as described in Section 01452, with the following change;
  - 1. Provide finished pavement surface with an average profile index not greater than ½ inch per mile.

**END OF SECTION**